

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A fuel cell system comprising:

a fuel cell;

a circulating pump;

an ion exchange resin filter;

an electric conductivity meter;

a circulating flow path including the fuel cell, the circulating pump, the ion exchange resin filter and the electric conductivity meter; and

a judgment part judging whether replacement of the ion exchange resin filter is needed based on a comparison between a predetermined reference electric conductivity and an electric conductivity of water circulating in the circulating flow path that is measured by the electric conductivity meter, ~~a predetermined time after a start of water circulation,~~

~~wherein the predetermined time is set on a basis of an initial electric conductivity of water circulating in the circulating flow path~~

wherein the measurement of the electric conductivity of water circulating in the circulating flow path is scheduled at a predetermined time after a start of water circulation according to an initial electric conductivity of water circulating in the circulating flow path and an estimated time as the electric conductivity of water circulating in the circulating flow path asymptotically approaches a steady state value.

2. (Previously Presented) The fuel cell system according to claim 1 wherein the circulating flow path is a flow path through which coolant water is circulated to cool the fuel cell.

3. (Withdrawn) The fuel cell system according to claim 1 wherein the circulation in the flow path is a flow path through which pure water is circulated to humidify a fuel gas and an oxidizing agent which are supplied to the fuel cell.

4. (Canceled)

5. (Original) The fuel cell system according to claim 1 wherein the predetermined time is set shorter than a period in which the electric conductivity of water circulating in the circulating flow path reaches a steady-state value.

6. (Previously Presented) The fuel cell system according to claim 1 wherein the predetermined time is set to be shorter, when the initial electric conductivity is smaller.

7. (Previously Presented) The fuel cell system according to claim 1 wherein the predetermined reference electric conductivity is an electric conductivity estimated as being measured in a case where ion-exchange efficiency has a normal ion-exchange capacity.

8. (Previously Presented) The fuel cell system according to claim 1 wherein the predetermined time is set to a period in which the water circulating in the circulating flow path circulates through the circulating flow path for a predetermined number of times.

9. (Currently Amended) A method of controlling a circulating flow path of a fuel cell system having a fuel cell, a circulating water pump, an ion exchange resin filter and an electric conductivity meter in the circulating flow path, comprising:

starting a water circulation;

determining a predetermined time for measuring the electric conductivity of water ~~on a basis of an initial electric conductivity of water circulating in the circulating flow path;~~
according to an initial electric conductivity of water circulating in the circulating flow path
and an estimated time as the electric conductivity of water circulating in the circulating flow path asymptotically approaches a steady state value; and

judging whether the ion exchange resin filter needs replacement based on a comparison between a predetermined reference and an electric conductivity of water circulating in the circulating flow path as measured by the electric conductivity meter at the predetermined time after the start of water circulation.

10. (Currently amended) A fuel cell system comprising:
a circulating means for circulating water in a fuel cell;
an ion-exchange means for exchanging ions in the circulating water;
a circulating flow path including an electric conductivity measuring means, the fuel cell, the circulating means, and the ion-exchange means; and

a judging means judging whether the ion exchange means needs replacement based on a comparison between a predetermined reference and an electric conductivity of water circulating in the circulating flow path as measured by the electric conductivity measuring means,

wherein the measurement of the electric conductivity of water circulating in the circulating flow path is scheduled at a predetermined time after a start of water circulation according to an initial electric conductivity of water circulating in the circulating flow path and an estimated time as the electric conductivity of water circulating in the circulating flow path asymptotically approaches a steady state value.

~~a predetermined time after a start of water circulation, wherein the predetermined time is set on a basis of an initial electric conductivity of water circulating in the circulating flow path.~~

11. (Previously Presented) The fuel cell system according to claim 1 further comprising a circulation time calculating part for determining the predetermined time after the start of the water circulation for measuring the electric conductivity of the water circulating in the circulating flow path.

12. (Canceled)

13. (Canceled)